Scheme of Teaching and Examination for
4th Semester of 3 Years Diploma in Architecture Assistantship

Duration of Semester : **14 Weeks**
Student Contact Hours : **36 Hrs**
Total Marks : **800**

Sl. No.	Name of Subject	Subject Code	Subject	Teaching Scheme			Examination Scheme					
				L	T	P	Hours of Exam	Full Marks of Subject	Final Exam / committee marks	Internal Assessment	Pass Marks Final / Ext. Exam	Pass Marks in Subjects
1.	Contemporary Arch	AAA402	Theory	3		-	3	100	80	20	26	40
2.	Landscape Arch	AAA403	Theory	3	-	-	3	100	80	20	26	40
3.	Building Services I	AAA404	Theory	3	-		3	100	80	20	26	40
4.	Town Planning & Building Regulations	AAA405	Theory	3	-	-	3	100	80	20	26	40
5.	Climatology	AAA406	Theory	3	-	-	3	100	80	20	26	40
6.	Arch Design II	AAA407	Practical		-	4	-	100	80	20	26	40
7.	Landscape Arch Lab	AAA408	Practical	-	-	2	-	50	40	10	13	20
8.	Town Planning Project	AAA409	Sessional	-	-	4	-	100	40	10	13	20
9	Professional Practice II	401	Sessional	-	-	4	-	50	30	20		25
Total Hours of Teaching per week :				**15**		**14**						

Total Marks : Theory : Practical : Sessional :
L : Lecture, T : Tutorial P : Practical

Note:
1. Period of Class hours should be of 1 hrs duration as per AICTE norms.
2. Remaining Hrs every week has been marked for students Library and Student Centred Activities.
3. Drawing / Graphics / Practical / Sessional examinations will be held at parent institution.
4. Board will depute examiner for Practical examination.
5. Regarding sessional examination the parent institution will form a three member committee and this committee will examine the sessional records and hold viva of the examinee for 60 % marks allotted to the subject. Marks for remaining 40 % will be provided by the Faculty concerned on the basis of evaluation of each job / work throughout the semester.

Contemporary Architecture

Subject Code : AAA 402

L T P **Total Theory Hrs 42**

3

Detailed Syllabus :

1. Introduction to contemporary architecture, its meaning and scope. 2 hrs
2. Industrial revolution. Inventions of building materials and techniques, its influence on prevailing styles. 4 hrs
3. The Great exhibitions. Broad outline of the architectural developments during and after industrial revolution. 4 hrs
4. Precedence of modern Architecture-its qualities and influence on eclectic tendencies of early 19th century. 4 hrs
5. Search for new forms, rationalism, engineering tradition-Portland cement, development of Ferro-concrete upto 1900 and development of RCC, frame construction and its impact on architecture. 4 hrs
6. Special utilities and span problems of 19th century, Movement in arts and architectural relationship, expression and the art Noveau movement in Europe American development, Chicago School, Louis Sullivan, architectural system of Frank Lloyd Wright-Prairie houses. 6 hrs
7. Responses to mechanization-DeutscherWerkbund and Futurism, De stijl and AmsterdamSchool. 2 hrs
8. New space conceptions, Cubism, Le Corbusier's quest for ideal form, Bahaus and the international style, Walter Gropius, Mies Van DerRohe, Philip Johnson, Robert Mallart, P.L. Nerve, Salvadori, etc. 4 hrs
9. Development of surfaces and long span system. Louis Kahn, Hennibique, AugustePerretetc- their works and influences.

Problems of Regional Identity-movements in Scandinavia and Japan. 4 hrs

10 Works of Indian Master Architects-A P Kanvinde, B.V. Doshi, Charles Correa, Raj Rewal- emphasis on Modernity and Tradition in the regional context and contemporary trends in Indian Architecture. 4 hrs

11. Birth of post modernism. Deconstruction and architecture in the age of electronic media, emerging concepts. Present revolution in science and technology, as a futuristic vision, emerging concepts of human habitat, possible changes and future possibilities in architecture. Some ongoing experiments by leading architects of today are highlighted as path finder. 4 hrs

Reference Books:

1. Space, Time and Architecture/ Gideon

Landscape Arch

Subject Code : AAA 403 **Total Th 42 Hrs**

L T P **Total Pr 28 Hrs**
3 2

1. Landscape design definition : **8 hrs**

Objective and scope, History of landscape design, Review of Landscape designs/Styles (Mughal, Japanese, Chinese, Italian, French and English Gardens) and practice. Profession of landscape architects. Importance of Landscape in present times.

2. Landscape Surveys : **10 hrs**

Taking stock of natural and manmade elements, local ecology, land character, land forms, flora and fauna, existing and potential important elements.

Planting design principles, plant characteristics, form, shape, structure, texture etc. Types of plants. Trees, shrubs bushes, hedges, edges, annual creepers etc. and methods of their propagation, plant selection techniques.

3. Process of Landscape Design : **2 hrs**

Formal and informal landscape designs, rock garden, terrace garden, water garden, landscaping for interiors, landform design and grading, drainage design.

Landscape and its effect on climate and its use as a means to modify the environmental conditions (noise, soil erosion, land, air & water pollution, water logging and depletion of water resources) within and around the buildings. Landscape applications in gardens, indoor landscaping, terrace gardening, industrial landscaping, landscaping of residential areas and urban avenues, surface treatments, landscape elements of construction. Computer application in landscape. Multi-criteria landscape evaluation.

4. Energy, Water & Waste Management for Landscape : **12 hrs**

Alternative energy systems for buildings, energy from waste: bio-gas technology, energy from sanitary landfill, composting, vermi-composting.n Management of water in arid regions-principles of rain water harvesting, recycling of waste water. Site planning techniques.

Reference Books:

1. An introduction to Landscape Architecture/Lauric Michael
2. An introduction to Landscape Architecture/Hubband H
3. Fundamentals of Landscaping and Sale Planning /Root James B
4. Landscape Detailing LilleucoodMichacl

Landscape Arch Lab

Subject Code : AAA 408

Based on the theory minimum 10 experiments are to performed by the students.

Building Services I

Subject Code : AAA4

L T P **Total -42 Hrs**
3

Detailed Topics

1 **Elements of public water supply system : 16 hrs**

Consumption and demand of water for domestic and public purpose. Sources of water supply, standard of purity. Conventional water treatment-sedimentation, coagulation, filtration and disinfection.

Types of pipes, laying and joining cast iron main pipe, choice of pipes, different types of pipe joints, leakage and wastage of water and its preventive measures.

Different distribution systems, booster pumps, underground &overhead tanks, capacity of pumping plants, ferrule, water meters, stopcocks, bib cocks and pipe appurtenances. Hot water supply systems in buildings, their design, materials, joints, fittings and valves. Direct andindirect systems, special installation in multi-storied buildings.

Recycling process for water- Primary, Secondary and Tertiary systems.

2. **Fire Fighting** : **02 hrs**

Modern fire fighting systems in multi-storied buildings.

3 **Knowledge of Bylaws and rules related to sanitation of a building: 04 hrs**

Model bye laws and rules of sanitation of building, sewage and garbage disposal systems.

4. **Knowledge of various sanitary Systems and fixtures: 12 hrs**

Types of sewer Pipes(RC drain, asbestos cement , earthen wear, cast iron) , Testing of pipes. Laying and joining of sewer. Manhole, manhole spacing size and cover, Lamp hole and drop manhole, ventilation of sewer. Traps types, function and classification, P,Q, S trap, intercepting trap, gully traps, grease trap, oil trap.

Inspection chamber, Ventilation , vent pipe. Specification of various sanitary fittings and fixtures-taps, wash basins, water closets, urinals, bidets, sinks,mechanism of flush cistern. Fall and laying of drainage, conditions of flow in building drainage pipes.

Design of drainage and vent pipes, system for low-rise and high-rise buildings, storm water drainage, design of storm drains, building drains, connection topublic sewers.

5. **Basic principles of sanitation and disposal of waste matters from building: 8hrs**

One pipe, two pipe plumbing system ,Septic tanks, soak pits and anaerobic filters, on-site processing and disposal methods. Design of sewerage systems, conventional waste- treatment, activated sludge, trickling filters, oxidation

ponds, etc.Solid waste management (collection and disposal) system.

Reference Books :

1. Water Supply /Garg S. K
2. Sewage Disposal and Air Pollution Engineering /Garg S. K
3. Water Supply and Sanitation – B S Birdie
4. Water Supply and Sanitation - A K Chatterjee
5. Water Supply and Sanitation - Duggal

Town Planning and Building Regulations

Subject code- AAA405

L T P **Total Contact Hrs 42**
3

Rationale & Objectives:

This subject will help the students to understand rules and regulations of local authority. The students will be able to understand the importance of Town Planning and to apply various Building bye laws for Municipal approval of Building Plan.

Chapter	Name of Topics	Hours
	Introduction	
1	1.1 Objects of Town Planning 1.2 Principles of Town Planning 1.3 Necessity of Town Planning 1.4 Origin of towns 1.5 Growth of towns 1.6 Growth according to directions 1.7 Growth according to origin 1.8 Stages in Town Development	08
	Zoning	
2	2.2 Meaning of terms 2.3 Use of lands 2.4 Objects of zoning 2.5 Principals of Zoning 2.6 Advantages of Zoning 2.7 Importance of Zoning 2.8 Aspects of Zoning 2.9 Zonal Plans for special purposes 2.10 Zoning powers	08
	Building bye laws	
3	3.1 General – Standard Norms, Regulations & Building Bye laws 3.2 Object and importance of bye laws 3.3 Principals underlying building Bye Laws 3.4 Function of Local Authority & responsibility of owner 3.5 Applicability of Bye Laws 3.6 Requirement of open space- set back light plane	12

	3.7 Floor Space Index (F.S.I) or Floor area Ratio (F.A.R) 3.8 Off street parking 3.9 Fire protection 3.10 Minimum plot sizes 3.11 Terms – Auditorium, consolidated open plot, Low rise and High rise buildings, loft, mezzanine floor, domestic industrial building, ownership treatment flats, penthouse etc. 3.12 Building Bye laws for various residential schemes and industrial schemes.	
	Acts	
4	4.1 Urban land ceiling act 4.2 Architect Act 1972 4.3 Chottanagpur Tenancy Act	08
	Planned towns in India	
5	5.1 According to the Principles of Town Planning – Chandigarh & Gandhinagar only 5.2 Concept of Smart City	06
	Total-	**42**

Sl No	**Author**	**Title**	**Publisher & Address**
1.	Rangwala S.C	Town Planning	Charotar Publishing Anand
2	MahendraPratap	Town Planning	
3	G K Hiraskar	Fundamentals of Town Planning	Dhanpat Rai & Sons, New Delhi
4	Ambedkar&Modak	Town & Country Planning & Housing	Orient Longman Ltd New Delhi
5	ISI Hand book	National Building Code	BIS Latest Publication, New Delhi

Town Planning Project

Subject Code : AAA 409

A student in batch of maximum 5 students is to undertake a project work of site survey , site selection, building outlay & design and develop a township in the selected area.

Climatology

Subject Code : AAA406

Rational &Objectives:-

Understanding of the basic principles of climatology is very important for diploma holder in Architectural Assistantship. This subject will help the students to understand the various aspects of climate related to designing of building. Study of this subject will help the students to design building as per various climatic elements (conditions). They can co-relate climatic elements to comfort. They can design the building for all types climate. They can design the building in all parts of earth from equator to poles.

Chapter	Name of Topics	Hours
1.	Introduction:- Meaning of term climate and weather. Form of earth and different zones of earth. Various climate elements like sun, wind, temperature, rain, humidity. Movement of sun and movement of earth, Equinoxes and solstices.	8
2	Types of tropical climate (hot& dry and hot & humid) and their characteristics. Orientation of Building w r t various climatic elements like sun, wind , temperature and humidity.	6
3	Selection of Building Materials and constructions in the tropics. Orientation of buildings.	2
4.	Biological and Geographical approach of various climatic zones and macro-micro climate.	4
5.	Preparation and use of Solar chart and sun path diagram for different latitude.	6
6.	Relation of climatic elements like sun, wind, temperature, rain, humidity to human comfort and bioclimatic chart.	4
7.	The effect of climate on man and shelter.	2
8.	Sun shading/protection devices. 6.1 Natural devices like trees and shrubs, buffers. 6.2 Manmade devices, Internal & External like curtain, overhangs, venetian blinds, louvers, glasses.	6
9.	Different ecological elements like earth, water, vegetation, air.	4

Reference Books :

1. Manual of Tropical Housing and Building/Koenigsberger
2. Design with Climate/ V. Olgay A Y
3. Solar Control and Shading Devices /Olgay and Olgay
4. Climatic Responsive Architecture- A Design Handbook for energy Efficient Bldg./Arvind Krishna, Nick Baker/Tata McGrawhill
5. Tropical Architecture : C P Kukreja

Architectural Design-ll

Subject Code AAA407
FM External Exams 80

Rational &Objectives:-

Architectural drawing is basic of Architecture. It prepares the students to become a good Architectural Assistant. It helps in learning further aspects of Architectural drawing. They learn adequate skill of drawing site plan, double line plans, section and elevation of small residential and public buildings (single storied).

Topics No.	Entities to be considered	Minimum No of sheets
1.	Primary school.	02
2.	Restaurants.	02
3.	Bungalows.	02
4.	Bank.	02
5.	Small residence.	02
	Total	04 Hrs per week making 56 Hrs for course.

Problem on development of architectural drawing and design from given data.

Break up as follows:-

a. Well developed plan with schedule of opening &furniture lay out-40
b. Section -2 Nos. -20
c. Elevation-2 Nos. -10
d. Site plan with landscape -10

Total 80

Internal marking of 20

Reference Books :

1. Space , Time & Architecture/Giedion
2. Elements of Architecture from Form to place/Von Meiss Pierre
3. Time Saver Standards : Building Types by J Calender MGH

ProfessionalPractices-II

SubjectCode:401

Rationale:

Mostofthediplomaholdersjoinindustries.Duetoglobalizationandcompetitionintheindustrialandservicesectorstheselectionforthejobisbasedoncampusinterviewsorcompetitivetests.

Whileselectingcandidatesanormalpracticeadoptedistoseegeneralconfidence, abilitytocommunicateandtheirattitude,inadditiontobasictechnologicalconcepts.

Thepurposeofintroducingprofessionalpracticesistoprovideopportunitytostudentstoundergoactivitieswhichwillenablethemtodevelopconfidence.Industrialvisits,expertlectures,seminarsontechnicaltopicsandgroupdiscussionareplannedinasemestersothattherewillbeincreasedparticipationofstudentsinlearningprocess.

Objectives:

Studentwillbeableto:

1. Acquireinformationfromdifferentsources
2. Preparenotesfor giventopic
3. Presentgiventopicinaseminar
4. Interactwithpeerstosharethoughts
5. Preparereportonindustrialvisit,expertlecture

Sl. No.	Activity Heads	Activities	Suggested Hrs
1.	Acquireinformationfromdifferentsources	Topic related to the branch and current area of interest i.e. articles in internet on which research or review is undergoing may be decided for the students group. The group may be restricted to maximum 5 students. Literature survey from Internet , print media and nearby practices may be undertaken. Minimum of 10 to 15 papers may be suggested for reading to get an overview and idea of matters.	12
2.	Preparenotesfor giventopic	Making review or concept to be penned down in form of a	4

		article .(the article or review may be of 8 – 10 pages length in digital form of 12 font size in Times New Roman font)	
3.	Presentgiventopicinaseminar	A seminar or conference or work shop on branch related topic is to be decided and all students in group of 5-6 students may be asked to present their views.	4
4.	Interactwithpeerstosharethoughts	A power point presentation of the article prepared in stage 2 may be presented before the classmates and faculty members.	4
5.	Preparereportonindustrialvisit,expertlecture	A topic on best practices and product / software development may be assigned to the student group. The group may be asked to prepare a survey, come to opinion making and list out the activities to develop the activities with SWOT analysis.	12